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Applicants respectfully submit that the amendments to claims 1, 15, and 40 are supported in the specification at, *inter alia*, paragraphs 0006, 0007, 0010, and 0047, and original claim 33. The subject matter of the new claims is supported in the specification at, *inter alia*, paragraph 0010. Accordingly, approval and entry are respectfully requested.

The Examiner is authorized to charge the extra claim fee of \$18 (two claims added, one claim deleted) to deposit account no. 01-0481. Any other fees due or credits owed in connection with this paper may also be charged to said deposit account.

Section 103(a) Rejection of Claims 1-42

In the Office Action, claims 1-42 have been rejected under 35 U.S.C. § 103(a) (hereinafter “Section 103(a)”) as being unpatentable over U.S. Patent No. 5,728,969 to Otani et al. (hereinafter “Otani”) in view of U.S. Patent No. 4,705,582 to Aubert et al. (hereinafter “Aubert”), U.S. Patent No. 5,552,000 to Shepard, Jr. (hereinafter “Shepard”), and FR 465 082 (hereinafter “FR ‘082”).

It is fundamental law that it is improper under Section 103(a) to use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fritch*, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992). Teachings of references can be combined only if there is some suggestion or motivation to do so. *Smithkline Diagnostics, Inc. v. Helena Lab. Corp.*, 859 F.2d 878, 886-87 (Fed. Cir. 1988). This burden of obviousness

has not been met with regard to claims 1-42, and, therefore, this rejection is traversed.

Claims 1-14

The Examiner has failed to establish a *prima facie* case of obviousness against independent claim 1 of the present application because Otani, Aubert, Shepard, and FR '082, when taken alone or in combination, fail to teach or reasonably suggest a melt-pourable explosive composition comprising: 30 weight percent to 70 weight percent organic binder(s) selected from the group consisting of mononitro aromatics and dinitro aromatics, the binder(s) collectively exhibiting a total energy of detonation lower than trinitrotoluene and collectively having a total melting point in a range of 80°C to 115°C; and 30 weight percent to 70 weight percent oxidizer(s), wherein the melt-pourable explosive composition becomes pourable and is remeltable into a pourable state in a range of 80°C to 115°C, and wherein at least 95 weight percent of the melt-pourable explosive composition comprises a combination of the organic binder(s) and the inorganic oxidizer(s), as defined in claim 1.

Otani discloses a granular or powder explosives comprising porous prilled ammonium nitrate and aromatic dinitro compounds. According to Otani, the porous prill ammonium nitrate “is used in an amount within the range of from 50 to 97% by weight, preferably from 70 to 95% by weight, based on the total explosive.” See column 2, lines 40-45 of Otani. Because the

ammonium nitrate is porous and present in such large concentrations of at least 50 weight percent, preferably 70 weight percent, the aromatic dinitro compounds are adsorbed into the porous prill ammonium nitrate. *See column 2, lines 60-67 of Otani.*

Unlike the invention as set forth in claim 1, Otani's granular explosive material is not a "melt-pourable explosive composition [that] becomes pourable and is remeltable into a pourable state in a range of 80°C to 115°C." Rather, Otani teaches that its prilled ammonium nitrate adsorbs the aromatic dinitro compound. As a consequence, heating the granular explosive material of Otani to 80°C to 115°C will not transform or remelt the composition into a melt-pourable state.

Applicants respectfully submit that none of the other applied art would have motivated a person having ordinary skill in the art at the time the invention was made to modify Otani to make it into a melt-pourable composition as defined in claim 1. It is believed that such a transformation of Otani into a different physical product would require a significant reduction in the concentration of porous ammonium nitrate.

Aubert relates to a melt-castable composition for casting or pouring into a mold or warhead. Castable and pourable compositions differ greatly in physical state from the granular material of Otani. While Otani seeks to adsorb its aromatic dinitro compounds into porous ammonium nitrate, the object of Aubert is to suspend additives such as ammonium nitrate and

metals in a melt. Modifying Otani to use a lesser amount of inorganic oxidizer (so that the aromatic dinitro compound is not adsorbed into the porous ammonium nitrate), as the Examiner argues Aubert teaches, might have effected the adsorption of the aromatic dinitro compound and would have been contradictory to the express objects of Otani.

Shepherd similarly does not relate to the preparation of a porous explosive composition. To the contrary, Shepherd discloses an explosive composition derived from a non-aqueous unstable emulsion comprising first and second liquids and an emulsifier. The formation of an emulsion is contradictory to Otani's object of adsorbing the aromatic dinitro compound into the porous ammonium nitrate. Given the substantial differences between Shepherd and Otani, Applicants respectfully submit that a person having ordinary skill in the art at the time the invention was made would not have been motivated to combine these applied U.S. patents.

The Examiner has asserted that FR '082 discloses that "variation of the various notoriously well known additives, amounts and so forth would have been obvious." See Office Action, page 2. But the Examiner has not pointed to any teaching in FR '082 that would have motivated a person of ordinary skill in the art to modify the composition of Otani to transform it from a porous granular composition to a melt-pourable composition capable of becoming melt-pourable and remelted into a pourable state in a range of 80°C to 115°C.

For all of these reasons, reconsideration and withdrawal of the Section 103(a) rejection of claim 1, and claim 2-14 and 43 which depend therefrom, are respectfully requested.

Claims 15-39

The Examiner has also failed to establish a *prima facie* case of obviousness against independent claim 15 of the present application because Otani, Aubert, Shepard, and FR '082, when taken alone or in combination, fail to teach or reasonably suggest a melt-pourable explosive composition comprising 30 weight percent to 70 weight percent organic binder(s) selected from the group consisting of mononitro aromatics and dinitro aromatics, said organic binder(s) collectively exhibiting a total energy detonation lower than trinitrotoluene and collectively having a total melting point in a range of 80°C to 115°C; and 30 weight percent to 70 weight percent inorganic oxidizer(s), wherein the melt-pourable explosive composition becomes pourable and is remeltable into a pourable state in a range of 80°C to 115°C, and wherein at least 95 weight percent of said melt-pourable explosive composition comprises a combination of the organic binder(s) and the inorganic oxidizer(s), as defined in claim 15.

Applicants respectfully submit that in view of the similarities in features recited in claims 1 and 15, the Section 103(a) rejection of claim 15 must fail for the reasons expressed above. As with the case of claim 1, claim 15 similarly recites that the composition become melt-pourable and is

remeltable into a pourable state in a range of 80°C to 115°C. Claim 15 further characterizes the oxidizer as inorganic. Otani does not teach or reasonably suggest this feature. Further, to the extent that any of the secondary documents teach a remeltable composition, a person of ordinary skill in the art would have found these teachings contradictory to Otani's object of preparing a granular explosive which adsorbs its aromatic dinitro compound.

For these reasons, Applicants respectfully request reconsideration and withdrawal of the Section 103(a) rejection of claim 15 and claims 16-39 and 44, which depend therefrom.

Claims 40-42

The Examiner has also failed to establish a *prima facie* case of obviousness against independent claim 41 of the present application because Otani, Aubert, Shepard, and FR '082, when taken alone or in combination, fail to teach or reasonably suggest a melt-pourable explosive composition comprising 30 weight percent to 70 weight percent organic binder(s) selected from the group consisting of mononitro aromatics and dinitro aromatics, the organic binder(s) collectively exhibiting a total energy detonation lower than trinitrotoluene and collectively having a total melting point in a range of 80°C to 115°C; and 30 weight percent to 70 weight percent inorganic oxidizer(s), wherein the melt-pourable explosive composition becomes melt-pourable and is remeltable into a pourable state in a range of 80°C to 115°C,

undergoes an onset of thermal decomposition at a temperature that is at least 55.5°C higher than the temperature at which the melt-pourable explosive composition becomes pourable, and exhibits a card gap of less than 121, a dent depth in a range of 0.754 cm to 0.922 cm, and a total energy of detonation of 7.1 kJ/cc to 8.7 kJ/cc, and wherein at least 95 weight percent of said melt-pourable explosive composition comprises a combination of said organic binder(s) and said inorganic oxidizer(s), as recited in claim 40.

Applicants respectfully submit that in view of the similarities in features recited in claims 1 and 40, the Section 103(a) rejection of claim 40 must fail for the reasons expressed above. As with the case of claim 1, claim 40 similarly recites that the composition capable of becoming melt-pourable and being remelted into a pourable state at 80°C to 115°C. Claim 40 further characterizes the oxidizer as inorganic. Otani does not teach or reasonably suggest this melt feature. Further, to the extent that any of the secondary documents teach the use of a remeltable composition such as TNT, a person of ordinary skill in the art would have found these teachings contradictory to Otani's object of adsorbing an aromatic dinitro compound into a high concentration of ammonium nitrate for preparing a granular explosive.

For these reasons, Applicants respectfully request reconsideration and withdrawal of the Section 103(a) rejection of claim 40 and claims 41, 42, and 45, which depend therefrom.

Section 102(b)/103(a) Rejection of Claims 40-42

Claims 40-42 have been rejected under 35 U.S.C. 102§ (b) (hereinafter “Section 102(b)”) as anticipated by or, in the alternative, under Section 103(a) as obvious over each of U.S. Patent No. 4,600,452 to Jessop et al., U.S. Patent No. 5,411,615 to Sumrail, U.S. Patent No. 5,529,649 to Lund, U.S. Patent No. 5,717,158 to Capellos et al., and U.S. Patent No. 5,949,016 to Baroody et al.

Applicants point out that claim 40 has been amended to recite the explosive composition with more specificity. As amended, claim 40 recites a composition comprising 30 weight percent to 70 weight percent organic binder(s) selected from the group consisting of mononitro aromatics and dinitro aromatics, the organic binder(s) collectively exhibiting a total energy detonation lower than trinitrotoluene and collectively having a total melting point in a range of 80°C to 115°C; and 30 weight percent to 70 weight percent inorganic oxidizer(s).

This combination of features is likewise recited in claim 15. None of the applied U.S. patents discloses this combination of features, as is evident from the Examiner’s non-application of these documents against claims 1-39.

For these reasons, Applicants respectfully request reconsideration and withdrawal of the Section 102(b)/103(a) rejection of claim 40 and claims 41, 42, and 45, which depend therefrom.

Obviousness-Type Double Patenting Rejection

The “instant claims” have been provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the respective claims of co-pending application no. 09/893,336 and 09/747,303.

This rejection is traversed.

The claims of the cited copending applications, when taken alone or in combination, fail to teach or reasonably suggest a melt-pourable explosive composition wherein at least 95 weight percent of the melt-pourable explosive composition comprises a combination of said the organic binder(s) and the inorganic oxidizer(s), as defined in claim 1.

For example, the claims of each of the co-pending application 09/747,303 recite a composition comprising, for example, melt-cast explosive composition comprising, for example, a melt-cast binder, a processing aid, coarse oxidizer particles, and fine energetic filler particles. The claims of the co-pending application do not reasonable suggest that the concentrations of the melt-cast binder and oxidizer particles add up to at least 95 weight percent of the composition.

The claims of co-pending application 09/893,336 recite a composition comprising, for example, 30 weight percent to 70 weight percent organic binder(s), 5 weight percent to 35 weight percent inorganic oxidizer(s), and 5 weight percent to 35 weight percent reactive metallic fuel(s). To the extent

that there may be any overlap between these ranges, the overlap is minimal and would not have been obvious to a person having ordinary skill in the art.

For these reasons, reconsideration and withdrawal of the obviousness-type double patenting rejection are respectfully requested.

Conclusion

In view of the foregoing, Applicants submit that the pending claims are allowable and that the application is in condition for allowance.

Reconsideration of the application in view of this Amendment and Response and its passage to issue are respectfully requested.

If the Examiner believes any issues remain unresolved, the favor of an Examiner interview is requested and the Examiner is requested to contact the undersigned, by telephone, to schedule same.

This Response is being filed within three months of the date of the Office Action. Accordingly, a petition for extension of time and a petition fee have not been concurrently filed. If any extension fees are due in connection with the filing of this Response, please charge Deposit Account No. 01-0481 under Order No. 1082-503 and accept this paper as a petition for extension.

Respectfully submitted,



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I hereby certify that this correspondence is being deposited with the United States Postal Service on January 10, 2003 with sufficient postage as first class mail in an envelope addressed the Assistant Commissioner for Patents, U.S. Patent & Trademark Office, Washington D.C. 20231.


